

## Claims

1. Transmission system comprising a transmitting arrangement having a speech encoder for deriving an encoded speech signal from an input speech signal, the transmitting arrangement comprises transmit means for transmitting the encoded speech signal to a receiving arrangement, the receiving arrangement comprising a speech decoder for decoding the encoded  
5 speech signal, characterized in that the speech encoder and/or the speech decoder comprises background noise determining means for determining a background noise property of the speech signal, in that the speech encoder and/or the speech decoder comprises at least one background noise dependent element, and in that the speech encoder and/or speech decoder comprises adaptation means for changing at least one property of the background noise dependent element  
10 in dependence on the background noise property.
2. Transmission system according to claim 1, characterized in that the speech encoder comprises, a perceptual weighting filter for deriving a perceptually weighted error signal representing a perceptually weighted error between the input speech signal and a synthetic speech  
15 signal, and in that the background noise dependent element comprises the perceptual weighting filter.
3. Transmission system according to claim 2, characterized in that the speech encoder comprises analysis means for deriving analysis parameters from the input speech signal, the properties of the perceptual weighting filter are derived from the analysis parameters, and in  
20 that the adaptation means are arranged for providing altered analysis parameters representing the speech signal being subjected to a high pass filtering operation to the perceptual weighting filter.
4. Transmission system according to claim 3, characterized in that the speech  
25 encoder comprises a high pass filter for deriving a high-pass filtered speech signal, and in that the speech encoder comprises further analysis means for deriving the altered analysis parameters from the high-pass filtered speech signal.

5. Transmission system according to one of the claims 1, 2, 3 or 4, characterized in that the speech decoder comprises a synthesis filter for deriving a synthetic speech signal from the encoded speech signal, the speech decoder comprises a post processing means for processing the output signal from the synthesis filter, and in that the back ground noise dependent element  
5 comprises the post processing means.

6. Transmission system according to claim 5, characterized in that the adaptation means are arranged for making the post filter inactive when the background noise level exceeds a threshold value.

10 7. Transmitting arrangement having a speech encoder for deriving an encoded speech signal from an input speech signal, the transmitting arrangement comprises transmit means for transmitting the encoded speech signal, characterized in that the speech encoder comprises background noise determination means for determining a background noise property  
15 of the speech signal, in that the speech encoder comprises at least one background noise dependent element, and in that the speech encoder comprises adaptation means for changing at least one property of the background noise dependent element in dependence on the background noise property.

20 8. Speech encoder for deriving an encoded speech signal from an input speech signal, the transmitting arrangement comprises transmit means for transmitting the encoded speech signal, characterized in that the speech encoder comprises background noise determination means for determining a background noise property of the speech signal, in that the speech encoder comprises at least one background noise dependent element, and in that the  
25 speech encoder comprises adaptation means for changing at least one property of the background noise dependent element in dependence on the background noise property.

9. Receiver comprising a speech decoder for decoding an encoded speech signal, characterized in that the speech decoder comprises background noise determination means for  
30 determining a background noise property of the speech signal, in that the speech decoder comprises at least one background noise dependent element, and in that the speech decoder comprises adaptation means for changing at least one property of the background noise dependent element in dependence on the background noise property.

10. Speech decoder for decoding an encoded speech signal, characterized in that the speech decoder comprises background noise determining means for determining a background noise property of the speech signal, in that the speech decoder comprises at least one background noise dependent element, and in that the speech decoder comprises adaptation means for changing at least one property of the background noise dependent element in dependence on the background noise property.

11. Transmission method comprising deriving an encoded speech signal from an input speech signal, transmitting the encoded speech signal to a destination, receiving the encoded speech signal and decoding the encoded speech signal, characterized in that the transmission method comprises determining a background noise property of the speech signal, and in that the method comprises changing the encoding and/or decoding of the speech signal in dependence on the background noise property.

12. Encoding method comprising deriving an encoded speech signal from an input speech signal, characterized in that the transmission method comprises determining a background noise property of the speech signal, and in that the method comprises changing the encoding of the speech signal in dependence on the background noise property.

13. Decoding method comprising deriving an decoded speech signal from an encoded speech signal, characterized in that the decoding method comprises determining a background noise property of the speech signal, and in that the method comprises changing the decoding of the speech signal in dependence on the background noise property.